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Behavioral Risk Factor Surveillance – Selected States, 1987

Results from the 1987 Behavioral Risk Factor Surveillance System (BRFSS) indicated substantial variations in risk behaviors associated with cardiovascular disease, in drinking and driving behaviors, and in the use of recommended preventive health services among 32 states and the District of Columbia.

Health departments participating in the BRFSS use standard questionnaires and methods to conduct monthly random digit-dialed telephone interviews of adults ≥18 years of age (*1*). The results are representative of the adult population of each participating state.

The prevalence of three risk factors related to cardiovascular disease—being overweight,* smoking, and having a sedentary lifestyle—varied widely by state. The prevalence of cigarette smoking ranged from 15.0% in Utah to 32.3% in Kentucky (median = 25.2%), and that of sedentary lifestyle ranged from 47.2% in Montana to 73.5% in New York (median = 59.0%) (Table 1).

Risk factors related to drinking and driving accounted for the greatest variation by state (Table 2). Binge drinking varied more than fourfold, from 6.6% in New Mexico to 29.4% in Wisconsin (median = 15.3%); heavier drinking, from 3.7% in West Virginia to 10.3% in New Hampshire (median = 5.6%); and drinking and driving, from 1.3% in Kentucky to 8.3% in Wisconsin (median = 3.3%). The nonuse of seatbelts varied most (tenfold), from 7.0% in Hawaii to 72.2% in South Dakota (median = 42.1%).

In 1987, data on the use of two preventive health services—cholesterol screening and mammography—were collected in the BRFSS for the first time. The proportion of respondents who had ever had their cholesterol level determined varied nearly twofold, from 29.3% in New Mexico to 56.8% in Maryland (median = 46.6%) (Table 3). Among women ≥40 years of age, the proportion who had ever had a mammogram also varied twofold, from 28.6% in New Mexico to 57.5% in New Hampshire (median = 44.2%). Among all persons ≥65 years of age, the proportion who had received an influenza vaccination within the preceding 12 months ranged from 24.0% in Rhode Island to 41.3% in Montana (median = 34.3%).

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*The 1987 BRFSS findings concerning the prevalence of being overweight were recently reported in the *MMWR* (vol. 38, no. 24, dated June 23, 1989).

Behavioral Risk Factor Surveillance — Continued

TABLE 1. State-specific prevalences of current smokers and sedentary lifestyle — Behavioral Risk Factor Surveillance System, 1987

State	Sample size	Current smokers* (%)	95% CI§	Sedentary lifestyle† (%)	95% CI
Alabama	1182	(27.2)	±3.0	(59.0)	±3.0
Arizona	1179	(26.2)	±2.9	(57.4)	±3.1
California	1793	(21.3)	±2.2	(53.2)	±2.7
District of Columbia	1120	(24.2)	±2.9	(63.5)	±3.2
Florida	1238	(28.0)	±3.0	(59.1)	±3.1
Georgia	1332	(25.0)	±2.6	(64.2)	±3.0
Hawaii	1863	(22.5)	±2.5	(51.1)	±3.0
Idaho	1786	(20.5)	±2.2	(55.1)	±2.8
Illinois	1763	(25.8)	±2.3	(57.4)	±2.7
Indiana	2091	(28.7)	±2.1	(59.8)	±2.4
Kentucky	1789	(32.3)	±2.5	(69.6)	±2.6
Maine	1226	(27.7)	±2.7	(58.9)	±3.2
Maryland	1050	(24.8)	±3.0	(60.2)	±3.5
Massachusetts	1423	(26.4)	±2.6	(56.3)	±2.9
Minnesota	3235	(24.3)	±1.6	(56.6)	±1.9
Missouri	1357	(29.2)	±2.7	(62.2)	±3.0
Montana	1186	(22.3)	±2.6	(47.2)	±3.3
Nebraska	1180	(24.0)	±2.8	(59.9)	±3.2
New Hampshire	1199	(26.7)	±2.6	(56.7)	±3.1
New Mexico	1161	(20.9)	±2.6	(57.0)	±3.4
New York	1171	(23.2)	±2.8	(73.5)	±2.9
North Carolina	1765	(26.1)	±2.5	(61.3)	±2.7
North Dakota	1613	(23.7)	±2.3	(61.3)	±2.6
Ohio	1490	(26.8)	±2.6	(67.1)	±2.7
Rhode Island	1787	(24.3)	±2.2	(68.7)	±2.5
South Carolina	1784	(25.3)	±2.2	(60.5)	±2.5
South Dakota	1185	(25.2)	±2.7	(58.1)	±3.1
Tennessee	2385	(27.7)	±2.0	(66.5)	±2.1
Texas	1181	(23.0)	±2.7	(56.0)	±3.2
Utah	1427	(15.0)	±2.1	(49.9)	±3.1
Washington	1172	(23.7)	±2.7	(47.4)	±3.1
West Virginia	1628	(28.8)	±2.5	(64.2)	±2.7
Wisconsin	1341	(26.0)	±2.5	(54.0)	±2.9
Median prevalences		25.2		59.0	

*Has smoked 100 cigarettes and currently smokes.
†Persons reporting <20 minutes of leisure-time physical activity three times per week.
§Confidence interval.

Behavioral Risk Factor Surveillance — Continued

TABLE 2. State-specific prevalences of alcohol- and driving-related risk factors — Behavioral Risk Factor Surveillance System, 1987

State	Sample size	Binge drinking* (%)	95% CI**	Heavier drinking† (%)	95% CI	Drinking and driving§ (%)	95% CI	Seatbelt nonuse¶ (%)	95% CI
Alabama	1182	(12.5)	±2.3	(5.6)	±1.6	(2.6)	±1.2	(55.8)	±3.3
Arizona	1179	(17.6)	±2.6	(8.0)	±1.8	(3.5)	±1.2	(43.9)	±3.4
California	1793	(17.8)	±2.1	(8.9)	±1.7	(3.9)	±1.0	(19.1)	±2.2
District of Columbia	1120	(9.0)	±2.0	(4.7)	±1.4	(1.8)	±0.8	(14.2)	±2.3
Florida	1238	(15.3)	±2.4	(7.0)	±1.7	(3.3)	±1.2	(18.0)	±2.4
Georgia	1332	(10.6)	±2.1	(4.4)	±1.3	(2.2)	±0.9	(53.0)	±3.1
Hawaii	1863	(23.3)	±2.6	(9.2)	±1.7	(3.5)	±1.0	(7.0)	±1.5
Idaho	1786	(15.3)	±2.1	(5.0)	±1.2	(2.4)	±0.9	(42.1)	±2.7
Illinois	1763	(14.1)	±2.0	(6.5)	±1.3	(3.9)	±1.1	(37.8)	±2.6
Indiana	2091	(13.2)	±1.7	(3.8)	±0.9	(2.4)	±0.8	(42.3)	±2.7
Kentucky	1789	(8.1)	±1.5	(4.2)	±1.0	(1.3)	±0.6	(60.2)	±2.6
Maine	1226	(13.6)	±2.2	(7.4)	±1.7	(1.7)	±0.9	(55.3)	±3.2
Maryland	1050	(14.1)	±2.7	(8.4)	±2.1	(2.8)	±1.2	(21.8)	±3.3
Massachusetts	1423	(20.6)	±2.4	(8.8)	±1.8	(4.2)	±1.3	(45.4)	±3.0
Minnesota	3235	(22.2)	±1.7	(6.7)	±1.0	(6.2)	±1.0	(36.5)	±1.9
Missouri	1357	(17.9)	±2.3	(6.1)	±1.5	(4.2)	±1.3	(37.7)	±3.0
Montana	1186	(22.7)	±3.0	(4.5)	±1.4	(6.4)	±1.9	(49.7)	±3.3
Nebraska	1180	(19.4)	±2.8	(5.1)	±1.6	(6.6)	±1.9	(49.6)	±3.2
New Hampshire	1199	(20.2)	±2.6	(10.3)	±2.0	(4.9)	±1.4	(52.5)	±3.1
New Mexico	1161	(6.6)	±1.7	(3.9)	±1.3	(2.0)	±1.0	(17.8)	±2.9
New York	1171	(13.2)	±2.4	(5.2)	±1.6	(2.2)	±1.2	(21.7)	±2.8
North Carolina	1765	(11.5)	±2.0	(4.4)	±1.2	(1.7)	±0.8	(13.9)	±1.9
North Dakota	1613	(22.6)	±2.3	(4.3)	±1.2	(5.6)	±1.3	(69.1)	±2.5
Ohio	1490	(17.0)	±2.1	(6.3)	±1.4	(3.6)	±1.1	(27.1)	±2.6
Rhode Island	1787	(7.7)	±1.5	(6.9)	±1.4	(1.7)	±0.7	(52.6)	±2.7
South Carolina	1784	(11.9)	±1.7	(5.6)	±1.2	(3.5)	±0.9	(52.4)	±2.6
South Dakota	1185	(20.6)	±2.0	(4.2)	±1.4	(5.7)	±1.7	(72.2)	±3.0
Tennessee	2385	(10.2)	±1.4	(4.1)	±1.0	(2.6)	±0.8	(33.8)	±2.2
Texas	1181	(21.9)	±2.7	(6.9)	±1.7	(6.1)	±1.6	(16.5)	±2.4
Utah	1427	(11.0)	±2.0	(4.3)	±1.3	(2.1)	±1.0	(39.2)	±3.0
Washington	1172	(17.3)	±2.4	(6.1)	±1.5	(2.8)	±1.0	(17.0)	±2.3
West Virginia	1628	(13.2)	±2.2	(3.7)	±1.2	(2.2)	±0.9	(59.3)	±2.8
Wisconsin	1341	(29.4)	±2.7	(9.7)	±1.7	(8.3)	±1.6	(54.0)	±2.9
Median prevalences		15.3		5.6		3.3		42.1	

*Consumed ≥5 drinks on a single occasion in the last month.
†Consumes ≥60 drinks per month.
§Has driven after having "too much to drink" at least once in the last month.
¶Sometimes, seldom, or never wears seatbelts.
**Confidence interval.

Behavioral Risk Factor Surveillance — Continued

TABLE 3. State-specific prevalences of preventive services — Behavioral Risk Factor Surveillance System, 1987

State	Sample size	Cholesterol ever checked (%)	95% CI†	Ever had mammogram (ages ≥40) (%)	95% CI	Influenza vaccine (ages ≥65)* (%)	95% CI
Alabama	1182	(41.9)	±3.1	(41.0)	±5.0	(34.2)	±6.8
Arizona	1179	(47.0)	±3.3	(46.0)	±5.6	(36.9)	±6.6
California	1793	(49.9)	±2.6	(53.2)	±4.9	(28.2)	±5.8
District of Columbia	1120	(55.4)	±3.5	(53.2)	±6.0	(24.6)	±7.5
Florida	1238	(50.9)	±3.3	(45.8)	±5.3	(29.7)	±5.6
Georgia	1332	(43.3)	±3.0	(41.9)	±5.3	(34.5)	±6.2
Hawaii	1863	(46.8)	±3.0	(46.9)	±5.5	(34.3)	±7.2
Idaho	1786	(41.5)	±2.6	(44.9)	±4.1	(36.1)	±5.1
Illinois	1763	(44.4)	±2.6	(45.5)	±4.6	(30.3)	±5.6
Indiana	2091	(40.8)	±2.5	(35.3)	±4.0	(27.3)	±4.7
Kentucky	1789	(43.1)	±2.6	(35.5)	±4.0	(34.4)	±4.9
Maine	1226	(47.3)	±3.1	(42.6)	±4.9	(31.0)	±5.8
Maryland	1050	(56.8)	±3.5	(48.6)	±5.8	(28.0)	±6.8
Massachusetts	1423	(46.6)	±2.9	(51.0)	±5.1	(31.6)	±6.4
Minnesota	3235	(47.5)	±1.9	(52.5)	±3.5	(34.3)	±4.0
Missouri	1357	(43.7)	±2.9	(41.4)	±5.0	(36.6)	±6.0
Montana	1186	(50.1)	±3.2	(41.0)	±5.3	(41.3)	±6.2
Nebraska	1180	(43.5)	±3.2	(34.6)	±5.2	(39.6)	±6.4
New Hampshire	1199	(48.9)	±3.2	(57.5)	±5.5	(38.0)	±8.0
New Mexico	1161	(29.3)	±3.0	(28.6)	±5.8	(36.7)	±7.6
New York	1171	(32.6)	±3.0	(46.4)	±5.9	(27.6)	±6.6
North Carolina	1765	(48.6)	±2.7	(45.3)	±4.4	(33.2)	±5.2
North Dakota	1613	(48.5)	±2.7	(38.6)	±4.9	(29.0)	±4.9
Ohio	1490	(46.8)	±2.8	(40.4)	±5.2	(39.9)	±6.0
Rhode Island	1787	(41.4)	±2.8	(49.9)	±4.5	(24.0)	±4.5
South Carolina	1784	(46.6)	±2.6	(42.2)	±4.7	(31.0)	±5.9
South Dakota	1185	(46.1)	±3.2	(43.9)	±5.2	(35.8)	±6.4
Tennessee	2385	(46.5)	±2.3	(37.5)	±3.6	(37.0)	±5.0
Texas	1181	(45.7)	±3.3	(42.3)	±6.0	(34.1)	±7.1
Utah	1427	(41.4)	±3.0	(44.3)	±5.7	(37.1)	±6.6
Washington	1172	(53.2)	±3.1	(49.9)	±5.7	(38.3)	±7.0
West Virginia	1628	(48.4)	±2.9	(37.0)	±4.6	(37.9)	±5.6
Wisconsin	1341	(46.4)	±2.9	(51.6)	±5.5	(39.3)	±6.5
Median prevalences		46.6		44.2		34.3	

*Had an influenza vaccination in the preceding year.
†Confidence interval.

Behavioral Risk Factor Surveillance — Continued

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Editorial Note: Data from the BRFSS have consistently shown that self-reported risk factors vary widely among respondents in reporting states (*2–4*). These variations emphasize the importance of state-specific data in measuring progress toward the 1990 (*5*) and year 2000 objectives for the nation and in setting appropriate health objectives at the state level. For example, in 1987 the prevalence of smoking in Utah was 15.0%, considerably less than the 1990 objective for the nation (25%). In contrast, it seems unlikely that states with high prevalences of smoking (e.g., Kentucky [1987 smoking prevalence = 32.3%]) will achieve this objective by the year 1990.

Self-reported alcohol consumption is an important indicator of risk for injury (*6*), and BRFSS estimates of drinking and driving and of binge drinking have correlated highly with rates of alcohol-related motor vehicle crashes at the state level (*7*). BRFSS estimates of drinking and driving and of binge drinking declined in 10 states between 1982 and 1985, suggesting that some progress had been made in reducing these health risks (*8*). BRFSS estimates of self-reported seatbelt use also have correlated with observed use in 15 states (*9*). Thus, the trends in seatbelt use may be useful in assessing the effectiveness of mandatory seatbelt legislation.

Prevalence estimates for cholesterol screening and for the use of mammography are similar to those from other surveys. In 1986, the results of a cholesterol awareness survey coordinated by the National Heart, Lung, and Blood Institute and the Food and Drug Administration indicated that 46% of adults have had their cholesterol level determined (*10*), similar to the 1987 BRFSS median value (46.6%). In addition, a 1986 Gallup poll estimated that 43% of women ≥40 years of age had ever had a mammogram (*11*), compared with the 1987 BRFSS median of 44.2%.

BRFSS data on cholesterol screening and mammography can be used to monitor changes in the delivery of these important preventive services in the states. For example, in 1987 the proportion of women ≥50 years of age who reported having had a screening mammogram in the preceding 12 months increased substantially (*12*); however, this trend varied considerably among the states (*13*).

The BRFSS will continue to provide state-specific data about health behaviors and the utilization of preventive health services that can reduce the burden of chronic diseases in the United States. These data will be used in assessing state-specific progress toward the 1990 and year 2000 objectives for the nation. In the absence of national objectives for specific behaviors, state public health agencies may wish to use BRFSS methods to set appropriate objectives and to monitor trends in these behaviors.

References

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References 4–13 may be obtained from the Office of Surveillance and Analysis, CCDPHP, Mailstop F05, Centers for Disease Control, Atlanta, GA 30333.

Occupational and Environmental Lead Poisoning Associated with Battery Repair Shops — Jamaica

In August 1987, Jamaican public health officials learned that 19 (86%) of 22 recently hospitalized children with lead poisoning in Kingston lived near small automobile-battery repair shops. Nine of these children had acute encephalopathy and seizures, and four were treated for recurrent symptoms of lead toxicity between January 1986 and March 1987. Because of the large number of severe cases and the unusual suspected exposure, the Jamaican Ministry of Health requested assistance from CDC in October 1987 to assess the prevalence and causes of excessive lead absorption among workers and household members exposed to battery repair shops.

At least 50 shops repair or rebuild car batteries in Jamaica; approximately 30 are located in Kingston. These shops typically employ one or two workers and share a yard with one or more residences. For evaluation of worksite exposures, 11 shops in Kingston were chosen for a survey (one shop was no longer in business, but the residential area was included in the study). For evaluation of exposure to airborne

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TABLE I. Summary — cases of specified notifiable diseases, United States

Disease	27th Week Ending			Cumulative, 27th Week Ending		
	July 8, 1989	July 9, 1988	Median 1984-1988	July 9, 1989	July 8, 1988	Median 1984-1988
Acquired Immunodeficiency Syndrome (AIDS)	86	U*	152	16,995	15,734	6,380
Aseptic meningitis	128	122	171	2,442	2,396	2,396
Encephalitis: Primary (arthropod-borne & unspec)	12	31	24	308	385	436
Post-infectious	-	4	3	46	63	65
Gonorrhea: Civilian	9,372	13,095	13,945	331,567	344,927	412,794
Military	300	331	331	5,674	6,279	8,476
Hepatitis: Type A	471	532	394	17,308	12,755	11,356
Type B	369	460	458	11,335	11,446	12,859
Non A, Non B	27	52	60	1,196	1,372	1,848
Unspecified	34	45	85	1,290	1,107	2,443
Legionellosis	15	21	17	432	480	347
Leprosy	4	-	3	79	91	122
Malaria	18	18	28	552	391	427
Measles: Total†	75	57	104	7,563	1,586	1,907
Indigenous	73	55	100	7,215	1,418	1,704
Imported	2	2	4	348	168	220
Meningococcal infections	44	41	27	1,652	1,808	1,699
Mumps	58	62	62	3,065	3,041	2,550
Pertussis	38	41	43	1,117	1,168	1,050
Rubella (German measles)	15	1	7	228	121	327
Syphilis (Primary & Secondary): Civilian	617	671	423	20,398	19,547	14,388
Military	12	2	2	137	91	94
Toxic Shock syndrome	2	8	8	189	168	180
Tuberculosis	355	442	377	10,652	10,365	10,642
Tularemia	4	6	8	51	90	82
Typhoid Fever	5	6	5	218	183	163
Typhus fever, tick-borne (RMSF)	13	22	32	200	215	266
Rabies, animal	55	69	82	2,368	2,166	2,631

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1989		Cum. 1989
Anthrax	-	Leptospirosis (Hawaii 1)	57
Botulism: Foodborne (Ore. 1, Alaska 1)	14	Plague	1
Infant	7	Poliomyelitis, Paralytic	-
Other	5	Psittacosis	50
Brucellosis (Va. 2)	41	Rabies, human	1
Cholera	-	Tetanus (N.C. 1)	27
Congenital rubella syndrome	1	Trichinosis	13
Congenital syphilis, ages < 1 year	78		
Diphtheria	-		

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.
†One of the 75 reported cases for this week was imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending July 8, 1989 and July 9, 1988 (27th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	16,995	2,442	308	46	331,567	344,927	17,308	11,335	1,196	1,290	432	79
NEW ENGLAND	715	115	10	2	9,478	10,175	370	573	50	54	32	5
Maine	33	7	4	-	141	211	8	21	3	1	5	-
N.H.	27	12	-	-	73	137	35	32	8	4	-	-
Vt.	8	7	1	-	36	76	25	41	5	-	-	-
Mass.	379	37	3	2	3,611	3,460	110	342	23	37	20	3
R.I.	38	26	-	-	683	950	23	43	3	3	7	1
Conn.	230	26	2	-	4,932	5,341	169	94	8	9	-	1
MID. ATLANTIC	4,972	289	47	5	44,230	55,030	2,119	1,750	100	175	104	10
Upstate N.Y.	556	118	14	4	7,783	8,659	512	358	44	6	34	1
N.Y. City	2,569	49	2	1	20,647	25,403	186	685	20	147	11	7
N.J.	1,239	-	31	-	7,163	7,743	222	297	11	5	19	1
Pa.	607	102	-	-	8,637	15,225	1,200	410	25	17	40	1
E.N. CENTRAL	1,388	333	87	2	56,796	54,838	935	1,318	122	48	113	3
Ohio	257	77	20	1	15,637	12,742	214	298	22	10	65	-
Ind.	242	60	21	-	4,631	4,400	73	222	19	16	17	1
Ill.	571	68	20	1	18,131	15,932	437	351	35	13	10	2
Mich.	250	118	21	-	15,811	17,013	164	350	34	9	17	-
Wis.	68	10	5	-	2,586	4,751	47	97	12	-	4	-
W.N. CENTRAL	393	103	13	2	15,729	13,911	574	494	51	12	19	1
Minn.	88	5	-	1	1,611	1,913	57	55	10	3	2	-
Iowa	34	19	3	-	1,317	1,071	46	22	9	-	4	-
Mo.	180	35	-	-	9,327	7,814	330	343	19	5	6	-
N. Dak.	3	4	1	-	68	95	4	16	3	-	1	-
S. Dak.	4	6	3	-	139	282	5	6	4	-	-	-
Nebr.	15	6	2	-	873	760	53	14	-	2	2	1
Kans.	71	28	4	1	2,394	1,976	79	38	6	2	4	-
S. ATLANTIC	3,453	499	48	17	94,192	97,503	1,494	2,218	175	188	61	-
Del.	55	13	1	-	1,522	1,430	25	77	3	2	6	-
Md.	325	61	11	2	10,305	10,059	381	381	18	20	14	-
D.C.	291	6	-	-	6,204	7,220	2	15	2	-	-	-
Va.	235	75	22	-	7,809	6,825	171	151	30	122	3	-
W. Va.	25	6	7	-	691	706	10	46	3	3	-	-
N.C.	277	64	2	1	13,872	13,717	243	531	51	-	19	-
S.C.	161	11	-	-	8,564	7,304	28	306	3	7	3	-
Ga.	534	45	1	-	18,106	18,779	170	234	9	6	7	-
Fla.	1,550	218	4	14	27,119	31,463	464	477	56	28	9	-
E.S. CENTRAL	390	243	17	1	27,411	26,703	209	818	91	3	17	-
Ky.	63	63	6	1	2,602	2,603	64	222	27	2	3	-
Tenn.	129	36	-	-	9,103	8,911	83	433	20	-	9	-
Ala.	112	102	11	-	8,654	8,483	41	112	40	1	5	-
Miss.	86	42	-	-	7,052	6,726	21	51	4	-	-	-
W.S. CENTRAL	1,581	295	34	2	35,913	38,975	2,049	1,146	81	306	24	13
Ark.	47	8	-	-	3,672	3,787	117	38	4	3	1	-
La.	252	18	6	-	7,364	8,066	153	197	9	1	4	-
Okla.	91	29	8	-	3,046	3,487	204	100	17	17	15	-
Tex.	1,191	240	20	2	21,831	23,635	1,575	811	51	285	4	13
MOUNTAIN	520	90	7	2	7,296	7,529	2,381	692	125	92	24	1
Mont.	10	3	-	-	104	239	29	25	2	2	2	1
Idaho	14	-	-	1	100	203	86	56	8	2	-	-
Wyo.	11	2	-	-	50	126	21	4	2	-	-	-
Colo.	169	41	1	1	1,568	1,795	309	102	41	37	2	-
N. Mex.	40	6	1	-	727	676	322	101	25	2	2	-
Ariz.	146	27	2	-	2,710	2,612	1,185	230	25	41	9	-
Utah	38	9	1	-	222	299	215	56	13	4	6	-
Nev.	92	2	2	-	1,815	1,579	214	118	9	4	3	-
PACIFIC	3,583	495	45	13	40,524	40,263	7,177	2,326	401	412	38	46
Wash.	309	-	2	1	3,106	3,547	1,654	487	115	27	9	4
Oreg.	138	-	-	-	1,538	1,614	1,285	256	44	8	1	1
Calif.	3,088	466	38	12	35,136	34,192	3,708	1,507	233	370	25	37
Alaska	5	5	4	-	486	558	437	31	5	3	1	-
Hawaii	63	24	1	-	258	352	113	45	4	4	2	4
Guam	1	-	-	-	-	83	-	-	-	-	-	-
P.R.	783	56	2	1	572	758	91	121	11	12	-	8
V.I.	22	-	-	-	353	208	-	4	-	-	-	-
Amer. Samoa	-	-	-	-	-	50	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	33	-	-	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 8, 1989 and July 9, 1988 (27th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	1989	Cum. 1989	Cum. 1988
UNITED STATES	552	73	7,215	2	348	1,586	1,652	58	3,065	38	1,117	1,168	15	228	121
NEW ENGLAND	33	-	215	-	21	105	118	-	35	3	226	148	1	6	1
Maine	-	-	-	-	-	7	13	-	-	-	4	11	-	-	-
N.H.	2	-	8	-	-	87	15	-	10	-	5	29	1	4	-
Vt.	1	-	1	-	-	-	8	-	-	-	6	2	-	1	-
Mass.	20	-	24	-	16	1	57	-	18	3	194	95	-	1	-
R.I.	5	-	38	-	3	-	1	-	-	-	8	2	-	-	1
Conn.	5	-	144	-	2	10	26	-	7	-	9	9	-	-	-
MID. ATLANTIC	93	-	458	1	155	533	239	2	173	2	64	55	2	12	11
Upstate N.Y.	17	-	40	1§	94	17	80	2	106	2	35	34	2	4	2
N.Y. City	31	-	46	-	14	37	29	-	16	-	2	1	-	8	6
N.J.	23	-	272	-	-	14	53	-	11	-	14	4	-	-	1
Pa.	22	U	100	U	47	465	77	U	40	U	13	16	U	-	2
E.N. CENTRAL	37	1	1,259	-	43	160	196	2	245	1	40	144	-	18	22
Ohio	7	-	626	-	35	23	76	-	8	-	1	25	-	3	-
Ind.	5	U	33	U	-	50	22	U	18	U	9	50	U	-	-
Ill.	16	-	592	-	-	68	58	-	104	-	-	21	-	13	18
Mich.	7	1	8	-	6	18	33	2	101	1	24	19	-	1	4
Wis.	2	-	-	-	2	1	7	-	14	-	7	29	-	1	-
W.N. CENTRAL	16	-	456	-	4	11	52	1	350	2	36	59	-	4	-
Minn.	6	-	-	-	-	10	10	-	1	-	7	16	-	-	-
Iowa	2	-	4	-	1	-	2	1	22	1	11	16	-	-	-
Mo.	4	-	237	-	-	1	19	-	47	-	15	11	-	3	-
N. Dak.	1	-	-	-	-	-	-	-	-	-	-	10	-	-	-
S. Dak.	1	-	-	-	-	-	5	-	-	-	1	2	-	-	-
Nebr.	1	-	108	-	2	-	11	-	5	1	1	-	-	-	-
Kans.	1	-	107	-	1	-	5	-	275	-	1	4	-	1	-
S. ATLANTIC	93	-	376	1	27	250	275	3	533	4	89	118	-	7	14
Del.	3	-	58	-	1	-	2	-	1	-	1	3	-	-	-
Md.	17	-	35	-	15	7	46	-	321	1	10	22	-	2	-
D.C.	4	-	7	-	3	-	13	2	77	-	-	-	-	-	-
Va.	16	-	18	-	3	141	28	-	65	-	6	16	-	-	11
W. Va.	2	-	28	-	-	6	10	-	9	1	12	3	-	-	-
N.C.	11	-	167	-	-	1	39	1	17	2	20	33	-	1	-
S.C.	3	-	-	-	-	-	15	-	17	-	-	-	-	-	-
Ga.	6	-	-	-	-	-	52	-	7	-	10	19	-	-	-
Fla.	31	-	63	1†	5	95	70	-	19	-	30	22	-	4	3
E.S. CENTRAL	6	1	111	-	-	61	50	-	98	5	44	21	-	2	-
Ky.	-	-	10	-	-	32	30	-	9	-	1	-	-	-	-
Tenn.	-	-	57	-	-	-	3	-	28	-	9	12	-	2	-
Ala.	4	1	44	-	-	-	14	-	13	5	32	7	-	-	-
Miss.	2	-	-	-	-	29	3	N	N	-	2	2	-	-	-
W.S. CENTRAL	25	2	2,842	-	38	14	112	24	1,165	1	75	68	-	23	6
Ark.	-	-	-	-	2	1	6	4	116	-	11	7	-	1	2
La.	1	-	6	-	-	-	26	9	460	-	5	10	-	5	-
Okla.	4	2	108	-	-	8	13	-	165	1	14	24	-	1	1
Tex.	20	-	2,728	-	36	5	67	11	432	-	45	27	-	16	3
MOUNTAIN	16	56	249	-	19	116	44	1	112	5	378	338	-	31	5
Mont.	1	-	12	-	1	1	1	-	2	-	10	1	-	1	-
Idaho	2	-	-	-	2	1	2	-	9	4	48	248	-	26	-
Wyo.	1	-	-	-	-	-	-	-	7	-	-	1	-	1	-
Colo.	2	2	59	-	1	114	18	1	16	-	19	13	-	-	1
N. Mex.	1	-	16	-	15	-	-	N	N	-	6	6	-	-	-
Ariz.	6	-	72	-	-	-	19	-	71	-	285	46	-	-	-
Utah	-	54	80	-	-	-	4	-	3	1	9	22	-	-	3
Nev.	3	-	-	-	-	-	-	-	4	-	1	1	-	1	1
PACIFIC	233	13	1,249	-	41	336	566	25	354	15	165	217	12	125	62
Wash.	16	-	20	-	12	2	58	-	24	14	48	45	-	-	-
Oreg.	11	-	-	-	12	3	39	N	N	-	6	9	-	2	-
Calif.	199	13	1,213	-	12	324	464	25	319	1	107	116	11	101	48
Alaska	3	-	-	-	-	-	4	-	1	-	-	6	-	-	-
Hawaii	4	-	16	-	5	7	1	-	10	-	4	41	1	22	14
Guam	-	U	-	U	-	1	-	U	-	U	-	-	U	-	1
P.R.	1	-	410	-	-	189	4	1	9	-	3	8	-	6	1
V.I.	-	-	4	-	-	-	-	-	11	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
C.N.M.I.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.
N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 8, 1989 and July 9, 1988 (27th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	20,398	19,547	189	10,652	10,365	51	218	200	2,368
NEW ENGLAND	849	531	7	273	253	-	15	3	3
Maine	5	5	3	3	16	-	-	-	1
N.H.	3	6	-	16	6	-	-	-	-
Vt.	-	2	-	4	2	-	-	-	-
Mass.	261	209	1	142	148	-	7	1	1
R.I.	15	16	-	33	21	-	5	1	-
Conn.	565	293	3	75	60	-	3	1	1
MID. ATLANTIC	3,825	3,912	29	2,018	1,970	2	56	14	301
Upstate N.Y.	453	264	5	170	272	1	6	5	6
N.Y. City	1,970	2,485	2	1,159	978	-	38	1	-
N.J.	684	450	8	341	361	-	8	6	-
Pa.	718	713	14	348	359	1	4	2	295
E.N. CENTRAL	824	587	26	1,149	1,136	3	23	32	57
Ohio	67	60	7	216	219	-	4	16	2
Ind.	33	34	5	98	123	1	1	11	2
Ill.	375	281	5	497	470	-	14	4	13
Mich.	329	193	11	276	267	1	3	1	6
Wis.	20	19	-	62	57	1	1	-	34
W.N. CENTRAL	174	117	25	270	273	23	5	33	335
Minn.	16	9	7	53	44	-	1	-	62
Iowa	21	13	4	28	21	-	2	1	110
Mo.	91	70	4	119	133	13	1	31	25
N. Dak.	1	2	-	9	9	-	-	-	28
S. Dak.	-	-	3	14	21	6	-	1	55
Nebr.	17	17	5	10	9	-	-	-	23
Kans.	28	6	2	37	36	4	1	-	32
S. ATLANTIC	7,538	7,064	18	2,214	2,231	2	20	52	726
Del.	85	62	-	22	20	-	2	-	16
Md.	388	388	1	186	226	-	4	7	202
D.C.	469	336	1	89	94	-	2	-	2
Va.	271	226	4	196	215	2	3	3	145
W. Va.	9	7	-	40	43	-	-	1	32
N.C.	479	395	5	261	182	-	2	23	3
S.C.	390	335	3	248	255	-	-	9	121
Ga.	1,572	1,136	3	345	363	-	2	7	126
Fla.	3,875	4,179	1	827	833	-	5	2	79
E.S. CENTRAL	1,367	1,027	3	905	879	4	1	20	214
Ky.	31	36	1	214	217	1	1	6	94
Tenn.	603	445	1	284	255	2	-	12	55
Ala.	421	296	1	253	261	-	-	2	64
Miss.	312	249	-	174	146	1	-	-	1
W.S. CENTRAL	2,850	2,227	17	1,239	1,299	11	8	30	388
Ark.	168	118	1	131	142	5	-	7	49
La.	662	429	-	137	159	-	1	-	3
Okla.	46	83	11	109	124	6	1	22	86
Tex.	1,974	1,597	5	862	874	-	6	1	261
MOUNTAIN	365	374	24	232	269	3	3	14	119
Mont.	1	2	-	8	5	-	-	10	47
Idaho	1	-	2	8	11	-	-	-	-
Wyo.	4	1	2	-	1	-	-	1	34
Colo.	51	62	4	12	42	1	1	3	6
N. Mex.	17	25	2	43	48	-	-	-	15
Ariz.	117	96	9	112	124	-	1	-	14
Utah	11	11	3	24	10	2	1	-	2
Nev.	163	177	2	25	28	-	-	-	1
PACIFIC	2,606	3,708	38	2,352	2,055	3	87	2	246
Wash.	136	117	2	117	117	-	5	-	-
Oreg.	137	149	-	73	75	1	4	1	-
Calif.	2,323	3,414	35	2,054	1,756	2	76	1	184
Alaska	3	7	-	24	22	-	-	-	61
Hawaii	7	21	1	84	85	-	2	-	-
Guam	-	3	-	-	9	-	-	-	-
P.R.	290	328	-	151	105	-	-	-	32
V.I.	2	1	-	4	4	-	-	-	-
Amer. Samoa	-	-	-	-	3	-	-	-	-
C.N.M.I.	-	1	-	-	16	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending July 8, 1989 (27th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	556	382	96	45	16	17	41
Boston, Mass.	181	115	32	18	9	7	18
Bridgeport, Conn.	38	26	5	3	1	1	1
Cambridge, Mass.	22	16	2	2	-	-	1
Fall River, Mass.	23	18	3	2	-	-	-
Hartford, Conn.	42	23	14	3	-	2	1
Lowell, Mass.	29	20	6	1	2	-	1
Lynn, Mass.	15	11	1	3	-	-	-
New Bedford, Mass.	23	17	3	2	1	-	2
New Haven, Conn.	48	34	10	3	-	1	8
Providence, R.I.	26	20	3	-	2	1	-
Somerville, Mass.	2	2	-	-	-	-	-
Springfield, Mass.§	39	27	9	2	-	1	4
Waterbury, Conn.	25	19	4	1	-	1	2
Worcester, Mass.	43	30	4	5	1	3	3
MID. ATLANTIC	2,318	1,523	434	256	57	48	115
Albany, N.Y.	40	30	6	1	1	-	3
Allentown, Pa.	13	10	2	1	-	-	-
Buffalo, N.Y.	100	79	13	1	4	3	6
Camden, N.J.	28	16	8	1	3	-	-
Elizabeth, N.J.	18	1.	3	2	-	-	2
Erie, Pa.†	41	26	10	3	-	2	3
Jersey City, N.J.	38	25	8	2	-	3	1
N.Y. City, N.Y.	1,364	869	256	186	39	14	42
Newark, N.J.	84	38	19	19	4	4	7
Paterson, N.J.	27	17	5	5	-	-	2
Philadelphia, Pa.	193	115	47	19	-	12	13
Pittsburgh, Pa.†	34	25	8	-	-	1	1
Reading, Pa.	33	30	2	-	-	1	4
Rochester, N.Y.	141	107	20	6	5	3	15
Schenectady, N.Y.	19	18	1	-	-	-	4
Scranton, Pa.†	27	23	2	2	-	-	4
Syracuse, N.Y.	46	28	9	5	1	3	3
Trenton, N.J.	27	21	2	2	-	2	3
Utica, N.Y.	20	14	6	-	-	-	-
Yonkers, N.Y.§	25	19	5	1	-	-	2
E.N. CENTRAL	1,928	1,248	415	143	46	75	81
Akron, Ohio	29	16	8	3	-	2	-
Canton, Ohio	47	35	7	3	-	2	5
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	102	63	27	6	4	2	4
Cleveland, Ohio	100	65	25	4	2	4	4
Columbus, Ohio	81	42	20	9	7	3	3
Dayton, Ohio	84	53	21	6	2	2	6
Detroit, Mich.	213	121	46	29	6	10	8
Evansville, Ind.	26	20	4	1	-	1	2
Fort Wayne, Ind.	53	38	8	2	2	3	3
Gary, Ind.§	17	10	4	3	-	-	1
Grand Rapids, Mich.	27	22	4	-	-	1	4
Indianapolis, Ind.	152	101	30	14	3	4	2
Madison, Wis.	40	26	7	1	1	5	-
Milwaukee, Wis.	111	74	26	8	1	2	8
Peoria, Ill.	37	21	5	3	3	5	1
Rockford, Ill.	47	35	6	1	2	3	4
South Bend, Ind.	35	25	7	1	1	1	2
Toledo, Ohio	114	79	29	3	1	2	5
Youngstown, Ohio	49	40	6	1	1	1	3
W.N. CENTRAL	618	431	117	34	20	16	25
Des Moines, Iowa	71	51	11	4	1	4	5
Duluth, Minn.	22	12	7	2	-	1	1
Kansas City, Kans.§	32	23	5	3	1	-	-
Kansas City, Mo.	129	80	35	4	5	5	5
Lincoln, Nebr.	25	19	5	1	-	-	1
Minneapolis, Minn.	104	75	17	5	4	3	6
Omaha, Nebr.	50	31	9	5	5	-	-
St. Louis, Mo.	104	78	14	7	2	3	6
St. Paul, Minn.	43	33	9	-	1	-	-
Wichita, Kans.	38	29	5	3	1	-	1
S. ATLANTIC	1,110	672	230	145	31	30	38
Atlanta, Ga.	142	79	34	26	1	2	-
Baltimore, Md.	261	165	50	31	8	7	10
Charlotte, N.C.	86	47	18	14	3	4	2
Jacksonville, Fla.	97	66	20	8	2	1	7
Miami, Fla.	110	56	25	22	6	1	1
Norfolk, Va.	39	25	9	3	1	1	2
Richmond, Va.	52	36	9	6	-	-	3
Savannah, Ga.	29	19	3	3	1	2	4
St. Petersburg, Fla.	58	43	10	2	1	2	3
Tampa, Fla.	55	34	14	4	2	1	3
Washington, D.C.§	150	78	34	25	4	9	3
Wilmington, Del.	31	24	4	1	2	-	-
E.S. CENTRAL	601	390	130	44	18	19	36
Birmingham, Ala.	90	57	18	8	6	1	2
Chattanooga, Tenn.	72	54	13	3	-	2	4
Knoxville, Tenn.	90	34	11	8	2	5	2
Louisville, Ky.	28	17	6	1	2	2	2
Memphis, Tenn.§	181	118	40	14	3	6	16
Mobile, Ala.	42	31	8	2	-	1	3
Montgomery, Ala.	23	15	7	1	-	-	-
Nashville, Tenn.	105	64	27	7	5	2	7
W.S. CENTRAL	1,599	976	345	180	50	47	49
Austin, Tex.	41	26	8	3	1	3	2
Baton Rouge, La.	30	18	7	3	-	2	-
Corpus Christi, Tex.	37	33	1	2	-	1	2
Dallas, Tex.	158	89	38	21	8	2	3
El Paso, Tex.	45	25	8	6	2	4	2
Fort Worth, Tex	66	42	16	5	1	2	5
Houston, Tex.§	734	436	169	89	24	16	18
Little Rock, Ark.	33	22	3	3	3	2	3
New Orleans, La.	134	74	26	23	8	3	-
San Antonio, Tex.	148	94	38	12	1	3	10
Shreveport, La.	100	64	20	8	1	6	3
Tulsa, Okla.	73	53	11	5	1	3	1
MOUNTAIN	584	390	112	50	19	13	26
Albuquerque, N. Mex.	83	47	21	9	5	1	1
Colo. Springs, Colo.	39	31	4	2	-	2	7
Denver, Colo.	75	52	15	5	1	2	2
Las Vegas, Nev.	85	58	19	7	-	3	6
Ogden, Utah	19	14	2	1	2	-	3
Phoenix, Ariz.	135	90	27	10	5	3	2
Pueblo, Colo.	25	17	2	2	4	-	1
Salt Lake City, Utah	34	22	7	3	-	2	-
Tucson, Ariz.	89	61	15	11	2	-	4
PACIFIC	1,518	931	290	174	69	50	75
Berkeley, Calif.	16	12	3	1	-	-	-
Fresno, Calif.	78	50	15	4	3	6	9
Glendale, Calif.	18	14	1	2	1	-	-
Honolulu, Hawaii	75	54	14	3	1	3	9
Long Beach, Calif.	65	42	11	6	1	5	4
Los Angeles Calif.	408	227	85	55	28	9	12
Oakland, Calif.	56	33	8	11	4	-	-
Pasadena, Calif.	22	15	2	1	2	2	3
Portland, Oreg.	112	72	26	6	5	3	6
Sacramento, Calif.	111	75	17	11	6	2	10
San Diego, Calif.	116	65	21	18	6	6	6
San Francisco, Calif.	123	64	30	21	3	5	5
San Jose, Calif.	119	75	23	14	7	-	4
Seattle, Wash.	106	70	22	9	2	5	-
Spokane, Wash.	61	45	8	5	-	3	6
Tacoma, Wash.	30	18	4	7	-	1	1
TOTAL	10,832††	6,943	2,169	1,071	326	315	486

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§Data not available. Figures are estimates based on average of past available 4 weeks.

Lead Poisoning — Continued

lead, seven air samples (three from breathing zones of individual workers and four from general work areas) were collected at each of the five shops that were repairing batteries on the day they were visited. Blood samples were drawn from workers at all 10 active shops. For evaluation of household exposures, 17 residences on repair-shop premises, including five in which repair-shop workers lived, and seven residences of repair-shop workers not on shop premises were identified. Eighteen neighborhood-matched control residences were also surveyed. At study residences, samples of soil and house dust and venous blood specimens from household members >6 months of age were analyzed for lead (*1,2*). Participants or their guardians were notified of elevated blood lead (PbB) levels and referred for medical evaluation if indicated.

Levels of exposure. Air-lead levels in repair shops averaged 0.021 mg/m^3 (geometric mean), and one sample exceeded the U.S. Occupational Safety and Health Administration (OSHA) permissible exposure limit of 0.050 mg/m^3 (*3*). In contrast, potentially hazardous levels of lead in soil and house dust were common at residences on repair-shop premises, where 11 (85%) of 13 yards had soil-lead levels >500 ppm (range: 51–54,000 ppm), and 11 (73%) of 15 homes tested had dust-lead levels >1500 μg/m^2 (range: 190–62,800 μg/m^2) (Table 1). These levels of lead in soil and house dust have been associated with increased lead absorption in children (*4,5*). Geometric mean soil- and dust-lead levels were significantly higher ($p<0.005$) at residences located on repair-shop premises than at control residences.

Levels of lead absorption. Blood samples were obtained from all 23 workers at the surveyed repair shops. The geometric mean PbB concentration was 64 μg/dL, and 18 workers (78%) had a PbB concentration of >50 μg/dL.

Blood samples were obtained from 186 (67%) of 279 study household members. Of 86 household members at repair-shop premises, 58 (67%) had PbB levels ≥25 μg/dL (Table 1). The prevalence of persons with high levels decreased with increasing age: 0–5 years, 100%; 6–11 years, 94%; ≥12 years, 47%. Geometric mean PbB levels were

TABLE 1. Environmental and blood lead (Pb) levels at survey residences

Measurements (geometric means)	Repair shop premises	Worker residence off premises	Control residence
Soil Pb	3236*	54	58
Samples >500 ppm/total samples	11/13†	1/7	2/16§
Dust Pb	4786¶	1622	603
Samples >1500 μg/m^2/total samples	11/15§	3/7	3/18
Blood Pb, by age group			
0–5 years	74*	14	14
N ≥25 μg/dL/total	17/17	0/4	1/20
6–11 years	54*	23¶	12
N ≥25 μg/dL/total	17/18	1/4	1/21
≥12 years	23*	10**	7
N ≥25 μg/dL/total	24/51	1/18	0/33

*$p<0.0005$ (t-test) compared with control residences.
†Less than number of households because of shared yards.
§Samples omitted at two households.
¶$p<0.005$ (t-test) compared with control residences.
**$p<0.05$ (t-test) compared with control residences.

Lead Poisoning – Continued

lower among members of control households ($p<0.0005$, t-test), in which <10% of persons in each age group had PbB ≥25 μg/dL (maximum detected, 33 μg/dL). Among persons ≥6 years of age, PbB levels were higher in those who lived in worker households located away from repair-shop premises than in those from control households.

PbB levels in persons were strongly correlated with lead concentrations in soil and house dust. The correlation was strongest among children <6 years old ($r=0.72$ [$p<0.0001$] for soil lead and $r=0.55$ [$p=0.0002$] for dust lead). Two residences located on the premises of the closed repair shop were among those with elevated soil lead, and all three children <6 years of age who lived there had PbB ≥25 μg/dL (range: 48–65 μg/dL).

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Editorial Note: Small-scale workplaces, which are common in developing countries (*6*), may be located in or near homes, and often they lack measures to protect workers and nearby residents from hazardous exposures. Lead is sometimes used in "cottage" industries, and lead poisoning has occurred both in workers and in household members exposed to processes such as recycling car batteries (*7*), making lead type, tempering cutlery (*8*), and making pottery (*9*). Lead poisoning of household members from lead dust brought home on work clothes has also been reported from moderate-sized workplaces (*10*).

Adverse health effects of lead include acute and chronic central nervous system toxicity, peripheral neuropathy, impairment of hemoglobin synthesis and anemia, chronic renal disease, and impairment of male and female reproductive functions. Children are especially susceptible to lead neurotoxicity, and CDC guidelines for childhood lead screening recommend intervention when the PbB level is ≥25 μg/dL (*4*). PbB levels well below this screening threshold have been associated with impaired cognitive development in early life, especially when exposure occurs to the developing fetus (*11,12*).

Exposed workers absorb lead mainly by inhaling airborne lead particulate and, to a lesser extent, by unintentionally ingesting lead dust that has contaminated hands, food, or cigarettes. Most repair-shop workers in this survey had PbB levels that exceeded both the World Health Organization PbB limit for adult males (40 μg/dL) (*13*) and the U.S. OSHA medical removal level (50 μg/dL averaged over 6 months) (*3*). Because air-lead levels exceeded 0.05 mg/m^3 at only one of five shops tested, ingestion may be an important route of exposure in repair-shop workers.

Persons living on the premises of battery repair shops appear to be at high risk for elevated PbB levels, and children are at risk for PbB levels sufficiently high (>50 μg/dL) to cause overt symptoms (*14*). The findings of this investigation are consistent with those of other studies indicating that ingestion of lead-contaminated soil and dust is an important route of lead exposure for children (*15*). Direct contamination of repair-shop premises by lead emissions from battery repair and by inappropriate handling of lead scrap appears to be a greater environmental hazard than lead dust carried on work clothes to homes distant from the repair shops.

Measures to control lead exposure in the workplace include providing controlled ventilation for processes that generate airborne lead dust and fume; wet sweeping or

Lead Poisoning — Continued

vacuuming to remove lead dust from environmental surfaces; avoiding eating or smoking in lead-contaminated areas; washing hands before eating or smoking; using proper respirators when air-lead levels cannot be reduced to safe levels; and showering and changing clothes before leaving work so that lead dust is not carried home (*3*). Workers at battery repair shops need to be informed of safe work practices. Although these measures may also reduce contamination of the home environment, their effectiveness in reducing household exposures in homes where lead work is done is not known. Soil contamination near shops using lead presents a continuing hazard unless the soil is removed or covered. Ideally, lead-related work should not be done on residential premises.

Small-scale battery repair shops have also been described in Nigeria (*16*) and the Republic of Trinidad and Tobago (*17*) and are likely be found in other developing countries. Public health officials should be alert to the possibility of lead poisoning among both workers and nearby residents exposed to such shops and should take preventive action when lead exposure is identified.

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References 4–17 may be obtained from the Office of the Director, NIOSH, Mailstop D26, Centers for Disease Control, Atlanta, GA 30333.

Ectopic Pregnancy — United States, 1986

In 1986, 73,700 ectopic pregnancies* were reported in the United States, a 6% decrease from the number reported in 1985 (not statistically significant) (Table 1) (*1,2*). From 1970, when surveillance of ectopic pregnancy began, to 1986, the rate per 1000 reported pregnancies more than tripled, from 4.5 to 14.3 (Figure 1). Similarly, the rate of ectopic pregnancy per 1000 live births rose fourfold, from 4.8 in 1970 to 19.7 in 1986, and the rate per 10,000 females of reproductive age (15–44 years) more than tripled, from 4.2 per 10,000 in 1970 to 12.8 in 1986.

In 1986, as in previous years, the highest rates of ectopic pregnancies (per 1000 reported pregnancies) occurred among women ≥30 years of age (*3*). Rates were 60% higher among women of black and other minority races than among white women. When analyzed by geographic region, the highest rates of ectopic pregnancy occurred in the South, the same as in 1985. The lowest rates for 1986 occurred in the Midwest.

In 1986, 36 women died as a result of ectopic pregnancy,† compared with 33 in 1985. The case-fatality rate of 4.9 deaths per 10,000 ectopic pregnancies represented a 17% increase over the rate of 4.2 reported in 1985.

*Data on the numbers of ectopic pregnancies were obtained from the National Hospital Discharge Survey conducted by the National Center for Health Statistics, CDC.

†Ectopic pregnancy mortality data are based on U.S. vital statistics collected by the National Center for Health Statistics, CDC.

Ectopic Pregnancy — Continued

The risk of death associated with ectopic pregnancy decreased sharply from 1970 through 1976, and more gradually from 1977 through 1986 (Figure 2). Overall, the case-fatality rate decreased more than 86%, from 35.5 deaths per 10,000 ectopic pregnancies in 1970 to 4.9 in 1986.

In 1986, the risk of dying from ectopic pregnancy was more than two times higher in women of black and other minority races than in white women, representing a decrease in the racial disparity noted in the previous 2-year period. In 1986, case-fatality rates were highest in the Northeast and lowest in the West; in 1985, the highest rates were also in the Northeast, but the lowest rates were reported in the Midwest.

Reported by: Pregnancy Epidemiology Br, Research and Statistics Br, Div of Reproductive Health, Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Complications from ectopic pregnancy remain one of the leading causes of maternal death in the United States. Factors that may have contributed to the decrease in the number of women hospitalized for ectopic pregnancies include heightened awareness of this condition and improved diagnostic technology. Newer technology has led to earlier diagnosis of ectopic pregnancy and to the use of more conservative methods, not requiring hospitalization, for managing the condition (*4–6*). The increase in case-fatality rate in 1986 reflects the simultaneous increase in

TABLE 1. Numbers and rates of ectopic pregnancies, by year — United States, 1970–1986

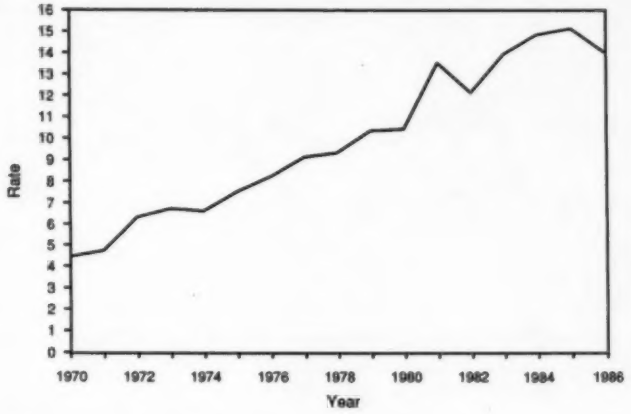
Year	No.*	Rates		
		Reported pregnancies†	Live births§	Females aged 15–44¶
1970	17,800	4.5	4.8	4.2
1971	19,300	4.8	5.4	4.4
1972	24,500	6.3	7.5	5.5
1973	25,600	6.8	8.2	5.6
1974	26,400	6.7	8.4	5.7
1975	30,500	7.6	9.8	6.5
1976	34,600	8.3	11.0	7.2
1977	40,700	9.2	12.3	8.3
1978	42,400	9.4	12.8	8.5
1979	49,900	10.4	14.3	9.9
1980	52,200	10.5	14.5	9.9
1981	68,000	13.6	18.7	12.7
1982	61,800	12.3	17.0	11.5
1983	69,600	14.0	19.2	12.6
1984	75,400	14.9	20.6	13.6
1985	78,400	15.2	20.9	14.0
1986	73,700	14.3	19.7	12.8
Total	**790,800**	**10.3**	**13.4**	**9.3**

*Rounded to nearest 100.
†Rate per 1000 reported pregnancies.
§Rate per 1000 live births.
¶Rate per 10,000 females.

Ectopic Pregnancy — Continued

the number of deaths and a decrease in the number of ectopic pregnancies and may represent more complete ascertainment of deaths. In a study initiated in 1988, CDC continues to investigate the possible causes of ectopic pregnancy. National pregnancy mortality surveillance initiated in 1987 is directed toward identifying and investigating all pregnancy-associated deaths by using multiple sources of reporting and information.

FIGURE 1. Ectopic pregnancy rates,* by year — United States, 1970–1986



*Per 1000 reported pregnancies.

FIGURE 2. Ectopic pregnancy mortality rates,* by year — United States, 1970–1986

*Per 10,000 ectopic pregnancies.

Ectopic Pregnancy — Continued

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Erratum: Vol. 38, No. 21

p. 380 Under the heading "Exposure Trends in Silica Flour Plants—United States, 1975–1986," the first sentence should read "A 1979 National Institute for Occupational Safety and Health (NIOSH) investigation of excessive free silica exposures identified 23 cases of silicosis in employees at two Illinois silica flour plants (*1*)."

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The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333; telephone (404) 332-4555.

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